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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,533	04/27/2001	Tatsuhito Takahashi	01254C/HG	3735

1933 7590 10/10/2003

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EXAMINER	
MARCANTONI, PAUL D	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

el025

Office Action Summary

Application No.	Applicant(s)
09/844,533	Takahashi et al
Examiner	**Group Art Unit**
Paul Marcantoni	1755

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☑ Responsive to communication(s) filed on 9/23/03.

☑ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☑ Claim(s) 18, 19, 21-34, 36-53, & 55-58 is/are pending in the application.

Of the above claim(s)_____ is/are withdrawn from consideration.

☐ Claim(s)_____ is/are allowed.

☑ Claim(s) 18, 19, 21-34, 36-53, & 55-58 is/are rejected.

☐ Claim(s)_____ is/are objected to.

☐ Claim(s)_____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on_____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on_____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)_____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received:_____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s)._____

☐ Interview Summary, PTO-413

☐ Notice of References Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other_____

Office Action Summary

Applicant's arguments filed 9/23/03 have been fully considered but they are not persuasive.

Prior Art Rejection:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18, 19, 21-34, 36-53, and 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knopf et al. '174B2 or '736B1 alone.

Response:

The applicants argue that the prior art does not teach a granular iron and steel making slag mixture having a porosity of 10 to 70%. The applicants hold that this feature makes their underwater block novel and unobvious. In rebuttal, while Knopf et al. do not explicitly teach a specific porosity range (it is not stated in either patent), it cannot be determined if it is or it is not in the applicants' claimed range. Applicants provide no experimental data clearly showing these patents teach a porosity outside the range of their invention.

Nevertheless, even if the claimed porosity range is not explicitly stated in the Knopf patents, the porosity of the cement which contains iron and slag (see col.8, line 28 of 736 B1) is within the control of one of ordinary skill in the art and the examiner fails to see how simply claiming a porosity value makes their invention unobvious over the prior art. Knopf 736 B1, for example, teaches that carbonation reduces the

permeability of cement (col.1, line 43) which is the porosity of the cement and one of ordinary skill in the art would have understood that control of the amount of carbonation would affect overall porosity or permeability.

As for density or specific gravity, again, there is no explicit teaching of a value for specific gravity with the exception of density values of .46 g/cc and .74 g/cc (col.10, lines 55-60). Yet, control of density is also within the skill of one of ordinary skill in the art because again, the amount of carbonation reduces permeability or porosity which thus increases overall density. In column 3, line 41, Knopf et al. 736B1 teach that "cements molded in the presence of high pressure carbon dioxide are significantly denser than otherwise comparable cements having no carbon dioxide treatment, and are also significantly denser than otherwise comparable cements treated with carbon dioxide after hardening."

The applicants also take the position that their block is a "slag" block allegedly versus the concrete block of Knopf. Yet, Knopf teaches that his cement contains iron and slag (col.8, line 28 of 736 B1) so the examiner fails to see any difference in the block material itself. Slag is part of the block of the prior art.

The applicants also discuss massive slag as not able to grow sea algae as is there slag block yet the examiner fails to see the relevancy of this since this is not related to the Knopf references of the prior art rejection.

The applicants also argue a "determined" size is needed and that slag should be pulverized to a small size for algae growth. In rebuttal, the applicants argue features not present in all of their claims, especially their independent claims. There is not

limitation regarding particle size of slag in their independent claims. While it is true that the claims may be read in light of the specification, it is improper to read the limitations of the specification into the claims. In re Yamato, 222 USPQ 93; In re Wilson, 149 USPQ 523; Graver Tank v. Linde Air Products Co. 80 USPQ 451 (Supreme Court). Also, the slag particle size is not known according to the Knopf references and it would appear that a particle size of 5cm or smaller is at least a conventional size (which includes powder based on applicants' range).

Further, applicants fail to provide any experimental evidence that algae growth would not or could not occur in the underwater block of Knopf. If Knopf teaches that his cementitious materials may be used for artificial reefs and that near neutral pH's are needed for marine organism growth, one of ordinary skill in the art would expect that this is an environment that allows also for the growth of plant life such as algae absent evidence to the contrary.

The applicants also speculate outside the teaching of the reference with regard to a concrete block. Again, the Knopf block also contains slag so this should be a non-issue. Nevertheless, applicants state that this concrete block may cause difficulty with respect to pH in the river and delay pH growth. In rebuttal, the examiner disagrees because slag is part of the prior art underwater block. Further, Knopf 736B1 even teaches that near neutral pH's are needed for growth of most marine organisms. Neutral pH's would allow for the growth of both animal and plant life in marine environments. (see col.4, lines 25-30).

The applicants again address the issue of algae growth and again this should be covered by the fact that Knopf, like the applicants, also uses a slag block. Nevertheless, it is also noted that algae growth is not a limitation ever mentioned in any claim and it is improper for applicants to argue limitations absent from the claims to show patentable distinctions over the prior art. In addition, no experimental data has been shown that the prior art cannot grow algae either.

The applicants also argue compressive strength yet this is not a feature that is being claimed nor do applicants provide any evidence of unexpected results over the prior art rejection. Again, Knopf teaches that cements molded in the presence of high pressure carbon dioxide are significantly denser than otherwise comparable cements having no carbon dioxide treatment and are significantly denser than comparable cements treated with carbon dioxide after hardening (col.3, lines 40-45). It would follow that a denser cementitious body would also have a higher compressive strength.

Finally, in order to simplify the rejection, the Knopf rejections alone meet the limitations of the instantly claimed invention and all secondary references are now removed. The applicants also make a statement that in the office action that Knopf et al. do not teach for use underwater. If the examiner made this statement, he regrets making the error because it is quite evident to those who read these Knopf references that his carbonated cementtitious materials (which contain slag) can be used for building artifical reefs. Artificial reefs are known by those skilled in the art as *underwater.* More so, if Knopf did not teach an underwater usage, then why would he

concern himself with any worry concerning the growth of marine organisms on his cementitious reefs? The Knopf patents most certainly do teach underwater usage.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is (703)-308-1196. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Paul Marcantoni
Primary Examiner
Art Unit 1755